

REMARKS

Claims 1-5, 26-31, 34, and 35 are currently pending in this application. Claim 1 has been amended to further clarify the nature of the present invention. The amendment does not constitute new matter, nor does the amendment narrow the scope of the claimed subject matter.

Claim 1 has been amended to remove the recitation of "releasable" from the preamble and to recite that the claimed composition is a releasable adhesive. The releasable nature of the disclosed creping adhesive is set forth in the specification at numerous locations, as the very nature of the adhesive is that it will hold the creped product on a Yankee dryer for a brief period of time (less than 1 second) and then release the creped product when tension is applied to remove that product from the Yankee dryer. A quantitative measure of this releasable characteristic is the "peel force" which is set forth at page 11 of the specification, lines 15 to 20, and recited in claim 34. The specification describes one method of mixing the components to achieve releasability, which is mixing the components directly on the heated Yankee dryer, *i.e.*, with no pre-mixing of the components.

Rejection Under 35 U.S.C. § 112

Claim 34 stands rejected under 35 U.S.C. § 112, second paragraph as being indefinite as the Office asserts it is "not readily ascertainable as to how such further limits the antecedently recited adhesive composition." Applicants respectfully request reconsideration and withdrawal of this rejection.

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Claim 1 was amended in the prior amendment to expressly recite a "releasably adhesive composition." As set forth above, the releasability of the adhesive is described throughout the specification. Claim 34 was added as a quantitative measure of releasability. The quantitative limitation is that a specific, measurable peel force will be required to pull a creped product from a Yankee dryer when that product has been adhered to the dryer using the claimed composition. If too much peel force is required to remove a creped product from a Yankee dryer, then one skilled in the art might not consider the adhesive composition to be "releasable." Claim 1 requires the adhesive composition to be releasable, whereas claim 34 further limits the composition by requiring a specific, quantitative measure of releasability.

Rejections Under 35 U.S.C. §§ 102 and 103

All of the claims stand rejected under 35 U.S.C. § 102 or, in the alternative, under 35 U.S.C. § 103 as anticipated by or obvious over previously cited and discussed references by Kotani (*Kotani '560* and *Kotani '029*), *Hollenberg*, and *Hollenberg* in combination with *Smigo*. In addition, the current Office Action rejects claims 1-3, 26, 29-31, 34, and 35 as anticipated by, or, in the alternative, obvious over U.S. Patent No. 5,230,774 issued to Greer, et al. ("*Greer*"). The Office Action alleges that the components of the present invention are disclosed in the cited references, and that the releasability and sprayability of the prior art compounds would be expected as they are essentially the same compounds made in essentially the same manner as the claimed compositions. Applicants respectfully disagree with these conclusions regarding the

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releasability and sprayability of the prior art compositions, and therefore request reconsideration and withdrawal of these rejections.

None of the prior art references, taken alone or in combination, disclose a method for combining the components of the present invention in a manner that would provide a releasable and sprayable adhesive. Furthermore, for the reasons already of record, Applicants submit that the prior art compositions do not utilize the same components as the presently claimed composition.

As set forth in paragraph 6 of the Declaration of inventor Phuong Van Luu dated February 2, 2000, previously submitted in this application, the components of the present invention simply will not form a useful creping adhesive unless they are mixed appropriately. While different mixing methods may exist which provide a useful creping adhesive, the method disclosed in the present specification is spraying the two components from separate sources directly onto a heated Yankee dryer. When formed in this way, the resulting composition is a sprayable, releasable adhesive, useful as a creping adhesive.

None of the cited prior art references disclose a formation method that would result in a releasable adhesive as required by the present claims, and certainly not a sprayable product. Paragraph 6 of the Luu declaration states that combining the components prior to contacting them with the heated Yankee dryer will result in a gel that is not sprayable, and is not a releasable adhesive useful as a creping adhesive.

The cited references all mix the components without contacting them on a Yankee dryer or similar heating source, and therefore would not produce the components of the present invention.

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Rejections over *Hollenberg*

Claims 1-3, 26, 29-31, and 35 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Hollenberg*. Applicants respectfully submit that *Hollenberg* does not teach or suggest combining the same components as recited in the present claims, and, furthermore, *Hollenberg* does not teach or suggest preparing the composition in a manner that would result in a releasable and sprayable adhesive. }

As previously argued in the record, *Hollenberg* does not teach or suggest the use of polymers having primary and secondary amines in the polymer backbone as required by the present claims. *Hollenberg* expressly discusses the use of polymers that may be crosslinked by ionic crosslinking, while amine-containing polymers would crosslink via Lewis acid/Lewis base reactions involving covalent bonds. It would not have been obvious to modify *Hollenberg* to combine zirconium crosslinking agents with the amine-containing polymers of the present invention, because *Hollenberg* actually teaches away from the use of such polymers. (*Hollenberg*, col. 3, lines 34 - 39).

Furthermore, *Hollenberg* does not teach or suggest combining a polymer with a crosslinking agent in a manner that will produce a sprayable, releasable adhesive. *Hollenberg* discloses combining the components prior to contacting them with the Yankee dryer, and, therefore, even if *Hollenberg* disclosed the same combination as the present invention (which Applicants deny), the reference still cannot render the present claims obvious because it does not teach or suggest mixing those components in a manner that will result in a releasable adhesive that is sprayable. }

The Office Action states that the releasability and sprayability of hypothetical, modified product of *Hollenberg* is "tenable . . . since the compositions of the patentees

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are essentially the same as and made under essentially the same conditions as the claimed compositions." However, the Office has provided no evidence supporting this assertion; an assertion which is contrary to evidence presented in the Luu Affidavit. If the components are not mixed together in an appropriate manner, such as mixing the separate components together directly on a heated Yankee dryer, then the resulting composition will not be releasably adhesive or sprayable.

Hollenberg does not teach or suggest a composition formation method that would result in a sprayable and releasable adhesive, and there is no motivation to modify the disclosure of *Hollenberg* references to provide such characteristics to the composition. If the Office is relying upon an assumption that the releasability and sprayability characteristics are inherent in the modified *Hollenberg* compositions, then such rejection is improper and should be withdrawn. Obviousness cannot be predicated upon inherent advantages. *In re Adams*, 148 USPQ 742 (CCPA 1966). On the other hand, if the Office is arguing that the claimed composition results from an obvious modification to the *Hollenberg* composition, then the Office should explain how one skilled in the art would be motivated to make the hypothetical modification, and why the claimed characteristics would be an expected result of such hypothetical modification. Since the compositions of *Hollenberg* are not intended to be used as creping adhesives, Applicants respectfully submit that one skilled in the art would not expect the compositions to form such an adhesive even if they were mixed in an appropriate manner.

Applicants respectfully submit that the Office has failed to make a *prima facie* case of obviousness with respect to the *Hollenberg* reference, and, further, Applicants

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have provided rebuttal evidence showing that the prior art does not contain the releasability and sprayability required of the present claims. Absent any contrary evidence, the Examiner should find that the Applicants have successfully rebutted any *prima facie* case with respect to the *Hollenberg* reference.

Rejections over *Hollenberg* in combination with *Smigo*

Claims 1-5, 26-31, 34, and 35, stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Smigo* in combination with *Hollenberg*, and again asserts that the releasability and sprayability of the modified *Smigo* compounds would be tenable. Applicants respectfully request reconsideration of this rejection.

For the reasons already of record, Applicants submit that modifying *Smigo* to use the zirconium-containing compounds of *Hollenberg* would not result in a compound useful as a creping adhesive. *Smigo* does not teach the use of a sufficient amount of crosslinking agent to provide creping properties, thus, even if one skilled in the art utilized the zirconium compounds of *Hollenberg* in the teachings of *Smigo*, there would not be sufficient crosslinking to form an adhesive. For example, in *Smigo*'s "Sample Preparation" the solution is poured into a pan. Since crosslinked polymers cannot be poured, *Smigo* clearly does not provide for crosslinking.

Furthermore, the combination of *Smigo* with *Hollenberg* still does not teach or suggest a method of combining a polymer with a zirconium-containing compound that would result in a sprayable, releasable adhesive. *Hollenberg* discloses mixing the compounds prior to contacting the Yankee dryer, and *Smigo* does not even discuss a Yankee dryer. The Luu Affidavit, which points out that mixing the components as set

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forth in *Hollenberg* and *Smigo* would result in the formation of a gel, provides rebuttal evidence that the suggested modification of *Smigo* would not result in a compound having the claimed characteristics as asserted by the Office. Applicants respectfully request withdrawal of this rejection.

Rejections based on *Kotani* '560 and *Kotani* '029

Claims 1-3, 26, 29-31, 34, and 35 stand rejected under 35 U.S.C. § 102(e) as anticipated by, or, in the alternative, under 35 U.S.C. § 103(a) as obvious over *Kotani* '560 and *Kotani* '029. For reasons already of record, Applicants respectfully reiterate that the *Kotani* references do not disclose the same components as those utilized in the present claims. More importantly, The *Kotani* references do not disclose an appropriate formation process, as the references disclose curing the composition and obviously do not provide a composition that is a releasable adhesive, or sprayable. The sprayability and releasability of the claimed invention is not inherent in the *Kotani* references, nor is it an expected result of any hypothetical modifications to those references, and thus the claimed invention is not anticipated by, nor obvious over, the *Kotani* references.

The prior Office Actions of record have set forth an overlap in the generic disclosures of *Kotani* with the more specific recitations of the present claims. One prior Office Action stated that one skilled in the art would have "readily envisioned" the combinations of the present invention based upon the *Kotani* disclosures. However, the mere fact that a claimed species or subgenus may be encompassed by the prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness. *In re*

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Baird, 16 F.3d 380, 382 (Fed. Cir. 1994). Rather, the patentability of a claim to a specific compound or subgenus embraced by the prior art genus should be analyzed no differently than any other claim. *In re Papesch*, 315 F.2d 381, 385 (CCPA 1963). In the present case, the Office has not established that the *Kotani* references provide any motivation to select the claimed compounds from the disclosed genus, as required for a *prima facie* case. Nor has the Office set forth any reason why one skilled in the art would have a reasonable expectation of success in selecting particular compounds for a creping adhesive from references that disclose a gas barrier resin and its film.

Furthermore, the compositions of *Kotani* clearly would not be releasable and sprayable, because they are cured. The Office Action states that the releasability and sprayability of a hypothetical intermediary product of the *Kotani* references is "tenable and would be expected since the compositions of the patentees are essentially the same as and made in essentially the same manner as the claimed compositions." However, the Office has provided no evidence supporting this assertion. If the components are not mixed together in an appropriate manner, such as mixing the separate components together directly on a heated Yankee dryer, then the resulting composition will not be releasably adhesive or sprayable. There is no teaching or suggestion in the *Kotani* references of a method for combining the components in a manner that would result in a sprayable, releasable adhesive.

With respect to the anticipation rejection, the Office appears to be arguing that the releasability and sprayability of an alleged *Kotani* intermediary would be inherent. As set forth in *In re Best*, 195 USPQ 430, 433 (CCPA 1977), cited in the Office Action, the product claims should be patentable over the prior art if the Applicants "prove that

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the prior art products do not necessarily or inherently possess the characteristics of [the] claimed product." Applicants have met this burden. Based upon the statements in the the Luu declaration regarding *Hollenberg*, releasability and sprayability is hardly inherent in compositions of this nature. Even though the Office is focusing on the intermediate, pre-cured product of *Kotani*, there is no indication in *Kotani* that the intermediary is mixed in a manner that would produce the required characteristics. Releasability and sprayability are not inherent even if the correct components are chosen. The *Kotani* references, therefore, cannot anticipate the present claims, and such rejections should be withdrawn.

The obviousness rejections are similarly improper and should be withdrawn. The *Kotani* references do not teach or suggest a composition formation method that would result in a sprayable and releasable adhesive, and there is no motivation to modify the disclosure of the *Kotani* references to provide such characteristics to the compounds. If the Office is relying upon an assumption that the releasability and sprayability characteristics are inherent in the *Kotani* intermediary compositions, the rejections based upon obviousness should be withdrawn. Obviousness cannot be predicated upon inherent advantages. *In re Adams*, 148 USPQ 742 (CCPA 1966). On the other hand, if the Office is arguing that the claimed composition results from an obvious modification to the *Kotani* intermediate composition, then the Office should explain how one skilled in the art would be motivated to make the hypothetical modification, and why the claimed characteristics would be an expected result of such hypothetical modification. Since the compounds of *Kotani* are not intended to be used as creping adhesives, Applicants respectfully submit that one skilled in the art would not expect the

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components disclosed in *Kotani* to form such an adhesive even if they were mixed in an appropriate manner.

Applicants respectfully submit that the Office has failed to make a *prima facie* case of anticipation or obviousness with respect to the *Kotani* references, and, further, Applicants have provided rebuttal evidence showing that the prior art does not contain the releasability and sprayability required of the present claims. Absent any contrary evidence, the Examiner should find that the Applicants have successfully rebutted any *prima facie* case with respect to the *Kotani* references.

Rejections over Greer

Claims 1-3, 26, 29-31, 34, and 35 stand rejected under 35 U.S.C. § 102(b) as anticipated by, or, in the alternative, under 35 U.S.C. § 103(a) as obvious over the *Greer* reference. For similar reasons as set forth above, Applicants respectfully request reconsideration and withdrawal of this rejection.

Greer discloses mixing the components of a composition together in solution at any point in the pulp-making process. As set forth in the Luu Affidavit, mixing prior to contacting the Yankee dryer results in a gel being formed, and would not result in a sprayable, releasable adhesive. As stated with respect to the *Kotani* references, even if the Office has set forth a *prima facie* case, the Applicants have rebutted that case with evidence that the compositions of *Greer* would not inherently exhibit the claimed characteristics of sprayability and releasability. Even if the Office is arguing that some hypothetical intermediary product of *Greer* would be a suitable creping adhesive, the Office has provided no evidence supporting that theory.

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Conclusion

In view of the foregoing remarks, Applicants request the entry of this Amendment, the Examiner's reconsideration and continued examination of the application, and the timely allowance of the pending claims. Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: October 3, 2002

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APPENDIX

IN THE CLAIMS:

Please amend claim 1 as follows:

1. [A releasably] An adhesive composition comprising an organic polymer having in the polymer backbone amine groups selected from the group consisting of primary and secondary amine groups and mixtures thereof and a crosslinking agent for crosslinking the polymer to a fibrous web, said agent being selected from zirconium compounds wherein the zirconium has a valence of plus four, wherein said composition is a releasable adhesive.

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